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On the Pectoral Filaments in the Sea Robin (Primotus palmipes).
—Dr. HARRISON ALLEN said, in speaking of the pectoral fin of the family of teliostean fishes, the Triglidae, that the first three rays are known as the pectoral filaments. They are disposed ventrally, separated from the body of the fin, and placed well in front of its base. The filaments are curved somewhat upon themselves, and are moved by powerful muscles. The nerves supplying them are derived from the ganglionic masses (so characteristic of the Triglidae) at the beginning of the spinal cord. The filaments are used not only for touch but for locomotion. In directing the body toward the right, the left filaments are in constant motion (like the limbs of a salamander) while the right filaments are at rest. In directing the body toward the left, the motion thus described is reversed. The filaments are also used in stirring up the soft silt which composes the bottoms on which the fish rests. The organs are thus put to comparative rough usage, so that one learns with a sense of surprise that the tops and sides near the tips possess a high degree of differentiation of the tegument. The organ, while appearing to be tactile in nature, recalls in character the general features of a retinal surface. Both in longitudinal and in transverse section the organ is seen to be composed of four layers of cells. The first basal layer is made up of small nearly round cells. The second layer is composed of large fusiform cells, each of which contains granular contents surrounding a distinct circular nucleus. The third layer is composed of columnar cells resembling finger-like processes which are arranged like a layer of retinal rods. A connective tissue membrane which might be compared to the external limiting membrane of the retina intervenes between the third and second layer of cells. The fourth and peripheral layer is composed of diaphanous tube-like prolongations of the side of the cells which compose the third layer. It varies greatly in thickness. In some portions of each filament the fourth layer is very thin, and barely covers the tips of the processes of the third layer, or it is of a thickness nearly equal to one-half the thickness of the entire organ. The layer appears to be tightly held to the third, and is often detached in the sections. The general membrane is smooth and uniform at the tips of the filaments, but is arranged in broad capitate papillae elsewhere.

The recorder thought the pectoral filaments to be beautiful objects for study. They can be readily obtained since the sea-robin is a common summer fish along the Atlantic coast.

SEPTEMBER 22.

The President, Dr. LEIDY, in the chair.

Twenty-five persons present.